Abstract:

In order to determine the possibility of controlled atmosphere (CA) storage of apple (Malus communis L. cv. Granny Smith), two trials were carried out with the fruits taken from the same place during the successive two years. Following the harvest, fruits were transported to the cold storage and then they were stored in plastic cells of 120-L volume in which the inner atmosphere could be controlled. Having completed the precooling treatment, the fruit cv. Granny Smith were stored at 0±0.5°C and 90-95% relative humidity (RH) storage conditions under different CA combinations [(CO2%:O2%) 0:21; normal atmosphere (NA)-control, 3:1, 3:1.5, 3:2 and 3:2.5]. After the storage period, they were kept at 20±2°C and 60-65% RH for 5 days so as to determine their shelf life. Some physical and biochemical analyses such as weight loss (%), respiration rate (mg CO2/kg h), titratable acidity (TA) (%), pH, water soluble solids (WSS) (%), fruit flesh firmness (FFF) (lb), pectin esterase (PE) activity (ml/h), fruit skin colour (L, a, b) were conducted on samples which were taken at certain intervals during storage and shelf life periods. As a result, all CA applications were found better compared with the control application in cv. Granny Smith stored for 210+5 days. Among CA applications, 3:1.5 combination was determined to be better than the others.